

## Effect of grater position on the size of grated sago (*Metroxylon* spp.)

### ABSTRACT

The natural arrangement of sago palm's fiber orientation is parallel to the vertical axis of the trunk. Extraction of the sago starch requires breaking of the trunk into fine sizes. The sago size is affected by the grater position which affects the starch recovery. This study was conducted to evaluate grating efficiency through sago size produced at the different direction of grating ( $0^\circ$  and  $90^\circ$  to roller teeth rotation). Sago palm trunks without outer layer were cut into square blocks of 100 mm<sup>3</sup>. Each trunk block was placed on roller grater platform at a different position where the cutting spike was parallel to the vertical axis of sago trunk fiber orientation (grating at  $0^\circ$  direction) and perpendicular (grating at  $90^\circ$  direction). 100 g of dry grated sago was sifted to determine the size distribution with different sieve sizes i.e. 2.80 mm, 2.00 mm, 1.00 mm, 0.85 mm and 0.425 mm. A total weight of 1 kg of grated sago was mixed with water and squeezed to be extracted. The starch recovery produced by the grating process at  $0^\circ$  directions was 10.30% higher than  $90^\circ$  directions. The present study showed that the direction of grating at  $0^\circ$  was able to produce finer grated sago with maximum starch recovery.

**Keyword:** Sago; Trunk; Fiber orientation; Grated size